Instruction 51-1013
5-5-06

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Because every industry has a leader

Installation Instructions: S&S® Super E & G Series Shorty Carburetors for Harley-Davidson® Twin Cam 88® Engines

DISCLAIMER:

S&S parts are designed for high performance, off road, racing applications and are intended for the very experienced rider only. The installation of S&S parts may void or adversely effect your factory warranty. In addition such installation and use may violate certain federal, state, and local laws, rules and ordinances as well as other laws when used on motor vehicles used on public highways, especially in states where pollution laws may apply. Always check federal, state, and local laws before modifying your motorcycle. It is the sole and exclusive responsibility of the user to determine the suitability of the product for his or her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties, and risks associated therewith.

The words Harley®, Harley-Davidson®, H-D®, Sportster®, Evolution®, and all H-D part numbers and model designations are used in reference only. S&S Cycle is not associated with Harley-Davidson, Inc.

SAFE INSTALLATION AND OPERATION RULES:

Before installing your new S&S part it is your responsibility to read and follow the installation and maintenance procedures in these instructions and follow the basic rules below for your personal safety.

● Gasoline is extremely flammable and explosive under certain conditions and toxic when breathed. Do not smoke. Perform installation in a well ventilated area away from open flames or sparks.

● If motorcycle has been running, wait until engine and exhaust pipes have cooled down to avoid getting burned before performing any installation steps.

● Before performing any installation steps disconnect battery to eliminate potential sparks and inadvertent engagement of starter while working on electrical components.

● Read instructions thoroughly and carefully so all procedures are completely understood before performing any installation steps. Contact S&S with any questions you may have if any steps are unclear or any abnormalities occur during installation or operation of motorcycle with a S&S part on it.

● Consult an appropriate service manual for your motorcycle for correct disassembly and reassembly procedures for any parts that need to be removed to facilitate installation.

● Use good judgement when performing installation and operating motorcycle. Good judgement begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgement. Start installation when you are fresh.

● Be sure all federal, state and local laws are obeyed with the installation.

● For optimum performance and safety and to minimize potential damage to carb or other components, use all mounting hardware that is provided and follow all installation instructions.

● Motorcycle exhaust fumes are toxic and poisonous and must not be breathed. Run motorcycle in a well ventilated area where fumes can dissipate.

IMPORTANT NOTICE:

Statements in this instruction sheet preceded by the following words are of special significance.

⚠ WARNING

Means there is the possibility of injury to yourself or others.

⚠ CAUTION

Means there is the possibility of damage to the part or motorcycle.

NOTE

Other information of particular importance has been placed in italic type.

S&S recommends you take special notice of these items.

WARRANTY:

All S&S parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of twelve (12) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at S&S's option if the parts are returned to us by the purchaser within the 12 month warranty period or within 10 days thereafter.

In the event warranty service is required, the original purchaser must call or write S&S immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action.

A part that is suspect of being defective must not be replaced by a Dealer without prior authorization from S&S. If it is deemed necessary for S&S to make an evaluation to determine whether the part was defective, a return authorization number must be obtained from S&S. The parts must be packaged properly so as to not cause further damage and be returned prepaid to S&S with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by S&S and the part was found to be defective, repair, replacement or refund will be granted.

ADDITIONAL WARRANTY PROVISIONS:

(1) S&S shall have no obligation in the event an S&S part is modified by any other person or organization.

(2) S&S shall have no obligation if an S&S part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the S&S part.

(3) S&S shall not be liable for any consequential or incidental damages resulting from the failure of an S&S part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between S&S and a customer.

(4) S&S parts are designed exclusively for use in Harley-Davidson and other American v-twin motorcycles. S&S shall have no warranty or liability obligation if an S&S part is used in any other application.

S&S® Super E and Super G Shorty carburetors are compatible with all carburetor-type Harley-Davidson® Twin Cam 88® engines. Easy adjustment makes S&S carburetors suitable for Twin Cam 88® engines regardless of cubic inches or most other modifications. S&S carburetor cannot be installed on fuel-injection (EFI) models without significant changes to OEM wiring harness and other parts.

NOTES:

- *Stock Twin Cam 88® throttle cables are not compatible with S&S carburetors. Cables are same as those designed for S&S carb installed on'96-up big twin, and are available from S&S and other aftermarket sources.*
- *Certain combinations of exhaust and camshaft timing can cause erratic carburetion, making correct tuning difficult or impossible. S&S recommends exhaust system with 1-¾" head pipes and full mufflers for most street applications. Because of tuning difficulties and reduced performance at lower speeds, S&S does not recommend exhaust systems with no mufflers, headpipes larger than 1¾", or overall length greater than 40" (excluding 2-into-1 collector style systems) for general street use. These recommendations are based strictly on performance, and do not take into account looks, sound, or personal taste.*

With exceptions noted below, procedure for installing S&S carburetor on Twin Cam 88® engine is same as described on pages 4-14, instruction 51-1012. Tuning carburetor for Twin Cam 88® engine is identical to procedure described in instruction 51-1012, pages 14-20.

Read this instruction and 51-1012 before beginning installation. Certain sections of Instruction 51-1012 apply only to Harley-Davidson® Sportster® models, knucklehead, panhead, or shovelhead engines and may be overlooked.

⚠ WARNING

- **Gasoline is extremely flammable, explosive under certain conditions, and the fumes toxic when inhaled. Disconnect battery ground cable before installation to prevent sparks, do not smoke around gasoline, and perform installation in a well-ventilated area away from sparks or open flame.**
- **If motorcycle has been running, wait until engine and exhaust have cooled to avoid getting burned during installation.**

INSTALLATION

Majority of installation is described in instruction 51-1012. Differences specific to Twin Cam 88® models apply to manifold fittings and breather hardware, and are described in detail after following section.

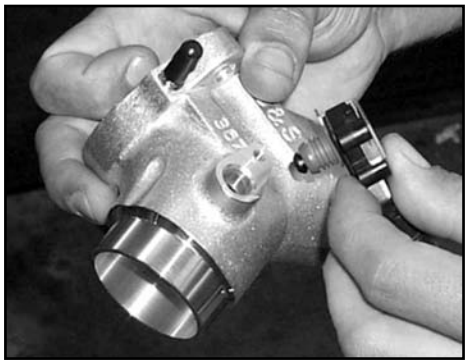
Shut off fuel petcock and remove gas tank to access OE manifold, carburetor, etc. On some models, slightly elevating rear of gas tank will be sufficient.

Remove air cleaner and drain fuel from existing carburetor. Disconnect wiring harness from map sensor and remove fuel petcock vacuum hose from manifold. Remove carburetor, manifold, choke cable, and any carburetor mounting hardware. Remove map sensor from manifold.

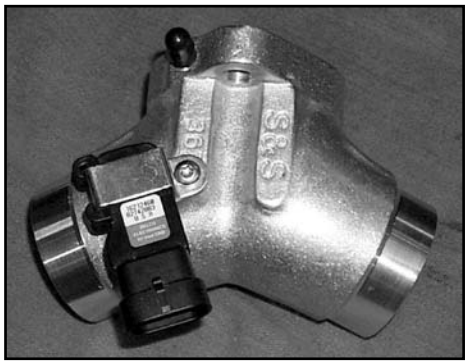
Prepare S&S air cleaner backplate as explained on Page 5 in instruction 51-1012.

TWIN CAM 88®

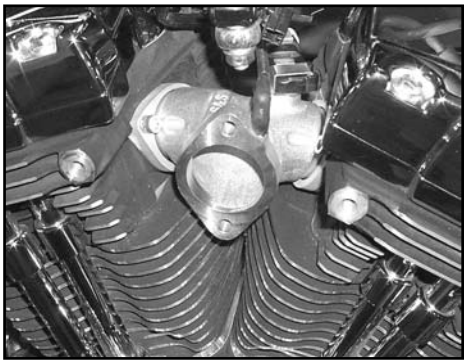
1- Install stock map sensor in S&S manifold. **See Picture 1**.
2- Secure sensor to manifold with stock clip and screw. **See Picture 2.**
3- Install manifold on engine with stock hardware. Connect fuel petcock vacuum hose to manifold fitting and connect wiring harness to map sensor. **See Picture 3.**
4- Install insulator block, carburetor, throttle cables, and overflow hose as described in instruction 51-1012. Observe all notes, cautions, and warnings regarding overflow hose.



Picture 1



Picture 2



Picture 3

NOTES

- *Stock cables are not compatible with S&S® carburetor. Correct cables are available from S&S and other aftermarket suppliers. In models equipped with fairings, it is usually possible to remove old cables and "snake" new ones into place without removing fairing. Once cables are adjusted, throttle must operate freely and without binding.*

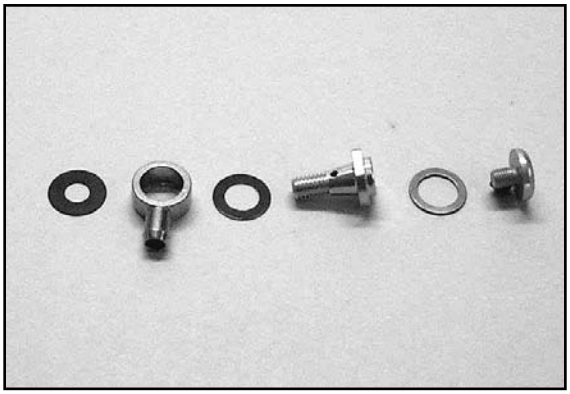
⚠ CAUTION

If insulator block is omitted, lower manifold bolt may damage carburetor bowl causing possible gasoline leak.

⚠ WARNING

- **If throttle does not return to fully closed position when released, it may inadvertently stick open, causing possible loss of control of motorcycle and personal injury to operator or others.**
- **Any gasoline leak or spill constitutes a serious health and fire hazard.**

6- Install breather fittings in cylinder heads. **See Picture 4 and Picture 5.**



Picture 4

Picture 5

7- Install air cleaner backplate and gasket on carb body as described on page 9 in instruction 51-1012. **See Picture 6.** Tighten backplate screws #17-0346.

8- Determine which of provided shims correctly fills gap between backplate and breather fitting. **See Picture 7.**

Picture 6

Picture 7

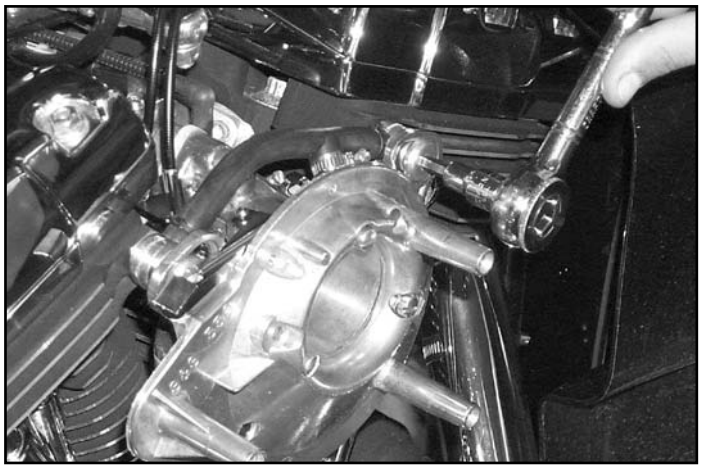
9- Remove backplate and attach breather hose, install backplate shims, and reinstall backplate. Read following note and caution.

NOTE: *Backplate screws supplied with kit have thread locking compound on threads. If screw without thread locking compound is used, a thread locking compound such as Loctite® 242 must be applied, and screws properly tightened.*

⚠ CAUTION

Failure to apply thread locking compound or properly tighten screws may cause screws to loosen and fall into engine, causing engine damage not covered under warranty.

10- Install front and rear backplate screws #17-0346. **See Picture 8.**



Picture 8

11- Install air filter element and cover, and complete final assembly, checks, and tuning according to pages 11-19 in instruction 51-1012.